**3.1 – Introduction to Chemical Reactions – Practice**

For the following word equations, write a chemical equation. For not, do not worry about balancing the equations. Feel free to break it down into steps!

1. When lithium hydroxide pellets are added to a solution of sulfuric acid, aqueous lithium sulfate and water are formed.

**LiOH(s)+ H2SO4(aq)** 🡪 **Li2SO­4(aq) + H2O(l)**

1. When solid C6H12O6 is burned in oxygen, carbon dioxide and water vapor are formed.

**C6H12O6(s) + O­2(g)** 🡪 **CO2(g) + H2O(g)**

1. Solid zinc and aqueous lead (II) nitrate react to form zinc nitrate in solution and solid lead.

**Zn(s) + Pb(NO3)2(aq) 🡪 Zn(NO3)2(aq) + Pb(s)**

1. Aluminum bromide in solution and chlorine gas react to form aqueous aluminum chloride and bromine gas.

**AlBr3(aq) + Cl2(g) 🡪 AlCl3(aq) + Br2(g)**

1. Sodium phosphate and calcium chloride react in solution to form calcium phosphate and sodium chloride, also in solution.

**Na3PO4(aq) + CaCl2(aq) 🡪 NaCl(aq) + Ca3(PO4)2(aq)**

1. Potassium metal and chlorine gas combine to form a potassium chloride solid.

**K(s)+ Cl2(g) 🡪 KCl(s)**

1. Solid aluminum and hydrochloric acid react to form aqueous aluminum chloride and hydrogen gas.

**Al(s) + HCl(aq) 🡪 H2(g) + AlCl3(aq)**

1. Calcium hydroxide in solution and phosphoric acid react to form a calcium phosphate precipitate and water.

**Ca(OH)­2(aq) + H3PO4(aq) 🡪 Ca3(PO4)2(s) + H2O(l)**

1. Solid copper and sulfuric acid react to form copper (II) sulfate precipitate, water and sulfur dioxide gas.

**Cu(s) + H2SO4(aq) 🡪 CuSO4(s) + H2O(l) + SO2(g)**

1. Hydrogen gas and aqueous nitrogen monoxide react to form water and nitrogen gas.

**H2(g) + NO(aq) 🡪 H2O(l) + N2(g)**

For the previous 10 questions, identify the type of reaction that occurred.

1. **Acid-base**
2. **Combustion**
3. **Single replacement**
4. **Single replacement**
5. **Double replacement**
6. **Synthesis**
7. **Single replacement**
8. **Acid-base**
9. **Acid-base**
10. **Acid-base**